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## New Zealand

## Organic Products

## Situation & Outlook

## 2002

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**Report Highlights:** New Zealand organics exports are forecast to reach US\$ 240 million by 2006 mainly driven by dairy giant Fonterra's planned entry into the organics scene. Pipfruit export increases are likely to peak at 950,000 trays in the next few years. Organic kiwifruit exports may stagnate at the current 2.3 million trays but this will be dependent on price premiums over conventional fruit. Organic frozen processed vegetable exports are likely to stagnate due to supply constraints rather than lack of price premiums. A study by the NZ Ministry for the Environment finds support for the importance of a GE-free New Zealand status for NZ organic exports. A national minimum organic standard is currently being developed in consultation with the industry.

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## SECTION I: BACKGROUND AND SITUATION

The New Zealand organics industry consists of several large-scale exporters such as Zespri International, ENZA, Heinz Watties, and McCains, but also many smaller-sized family businesses. Most businesses involved in some aspect of the export of organic products are members of the Organic Products Exporters of New Zealand (OPENZ), which is a network of businesses, research institutions, consultancies and certifying agencies. OPENZ was originally formed in 1995 as the Organic Products Exporters Group (OPEG) with support from the New Zealand Trade Development Board (Trade NZ). In order to ensure the integrity of New Zealand's organic exports, OPENZ requires its members' products to carry an internationally recognized certification. Three certifying agencies are associated with OPENZ: Bio-Gro New Zealand Ltd., the Biodynamic Farming and Gardening Association (Demeter), and Agriquality New Zealand Ltd. (CERTNZ). Approximately 600 primary producers are currently fully certified under the respective schemes and 250 primary producers are in transition to full certification over the next few years.

The government allocates approximately NZ\$ 45 million annually to research benefitting the organics sector via FoRST (Foundation for research, Science and Technology). Of this, about NZ\$ 20 million is allocated for sustainable management research, NZ\$ 22.5 million for integrated pest management, biological controls and reduced chemical input systems, and another NZ\$ 2.6 million for organics systems. The Minister of Agriculture has also provided a grant of NZ\$ 80,000 towards the development of an organic industry strategic plan (see section IV). This is in addition to NZ\$ 100,000 allocated to developing a national minimum standard for organics products. This standard is developed in conjunction with Standards New Zealand with a final definition of the standard due in December 2002. The standard may initially be on a voluntary basis only but has the potential to eventually become law (see section IV).

## SECTION II: ORGANIC EXPORTS

New Zealand's organic exports by value in 2000/2001 consisted of fresh fruits (71 percent), processed foods (14 percent), meat and wool (7 percent), and fresh vegetables (3 percent). OPENZ reports that the increase in organic exports in 2000/2001 was less than expected, only rising to NZ\$ 70 million (domestic sales were about NZ\$ 70 million), attributing this to three circumstances. Firstly, a tightening of the definition of 'organic' has meant that products previously declared organic could no longer be declared organic. Secondly, several larger producers did not complete the annual survey. Thirdly, significant domestic consumption growth saw producers divert output to the domestic market.

The industry predicts significant export market growth with the potential to reach sales worth NZ\$ 500 million within the next few years (domestic sales are forecast to rise to about NZ\$ 150 million over the same period). A large proportion of the expected export market growth shown in Table 1 is expected to come from the entry of Fonterra into the organic dairy products category. Fonterra has just announced that it will begin marketing organic dairy products, in particular organic cheddar cheeses, in

Australia (see section III).

Table 1: Aggregate historic and projected organics exports

year	1997	1998	1999	2000	2001	2002 f	2003 p	2004 p	2005 p	2006 p
NZ\$	20 m	28 m	35 m	60 m	70 m	120 m	190 m	290 m	400 m	500 m
rise	67 %	40 %	25 %	71 %	17 %	71 %	37 %	53 %	38 %	25 %

f = forecast; p = projected; 2.1 NZ\$ = 1 US\$

Source: Organic Products Exporters of New Zealand (OPENZ)

The imminent entry of Fonterra into the organics industry will change the composition of organic exports. Currently, fresh fruit dominates organic exports with 71 percent. The fresh fruit category consists of roughly 50 percent pipfruit (of which apples are 95 percent and pears 5 percent) and 50 percent kiwifruit, accounting for NZ\$ 40 million worth of organic exports. A large increase of exports occurred in the Meat & Wool category (up 250 percent on 2000) to earn NZ\$ 4 million. Processed food and fresh vegetables remained steady at NZ\$ 8 million and NZ\$ 1.6 million, respectively.

Export destinations also experienced changes. Exports to both North America and Asia were up 8 percent and 5 percent, respectively, on the previous year. Australia remained the same, while Europe was slightly down by NZ\$ 6.7 million as organic products were diverted to both 'growing' export markets and the NZ domestic market. The main export markets for NZ organic products in 2000/2001 are shown in Table 2.

Table 2: Organic exports by destination

market	Europe	Asia	Nth America	Australia	Other
NZ \$	22 mil.	17 mil.	12 mil.	2 mil.	3 mil.
share	39.3 %	30.4 %	21.4 %	3.6 %	5.4 %

Source: OPENZ

Note: The figures in this table do not reconcile with the OPENZ export estimate. The NZ\$ 70 million should, therefore, be seen as an extrapolation from the NZ\$ 56 million actually measured in OPENZ's annual survey.

### SECTION III: EXPORT OUTLOOK

Significant export growth in the organics category is expected to come from organic dairy products. The pipfruit industry is expected to increase production volumes rapidly to reach a peak over the next few growing seasons, after which volume increases will be levelling off. Indications are that the kiwifruit industry production volume will be increasing only slightly despite efforts by Zespri to increase volumes. Processed frozen vegetables, exported by McCains, Talleys, and Heinz Watties, have significant export growth potential but are likely to be restricted due to production constraints. Consequently, export volumes are likely to stagnate rather than significantly increase. Other product categories such as organic wine, honey and meat do experience growth but due to the low base of that growth and New

Zealand's relatively small scale in relation to global organics production (estimated to be in the vicinity of US\$ 18 to 25 billion), are not considered here.

### ***Organic dairy products***

Fonterra has signalled that it plans to start processing organic milk in the coming season beginning in September 2002. New Zealand Milk Products (NZMP), Fonterra's manufacturing and ingredients marketing division, will initially center its activities in the Waikato, drawing milk from farms in that region and in the Bay of Plenty, where most of New Zealand's organics certified farms are located. Currently, of about 48 dairy farms, half are fully organics certified while the other half is in the process of gaining full certification. This would provide NZMP with approximately 17 million litres of organic milk (from 48 farms), which will initially be used to produce organic cheddar cheeses. A challenge Fonterra will need to address is how to process a relatively small volume of organic milk through processing facilities that could handle the entire season's organic milk in less than a week. Smaller processing facilities are spread throughout New Zealand, but these are not necessarily in the most advantageous locations relative to the locations of existing organic dairy units.

The decision to enter the organics market has come after extensive market evaluation and research to ensure that market premiums of at least 20 percent are sustainable for the long term. Organic on-farm and processing costs are estimated to be 10 to 20 percent higher than in conventional systems, which made it paramount for Fonterra to ensure that long term organic premiums could at least match that higher costs structure. According to FAS' estimates, Fonterra could potentially market 1,800 MT of organic cheddar cheese in New Zealand and Australia and other lucrative markets. Fonterra intends to spread the product range and market coverage progressively as more dairy units become organics certified. If Fonterra were to follow the pipfruit and kiwifruit industries and achieve at least 3 percent of NZ's approximately 14,000 dairy farms to convert to organics, it could potentially produce 150 million litres of organic milk or 15,000 MT organic cheddar cheese. In that vicinity organic dairy products would be a major contribution in helping to realize OPENZ's predictions of exports sales worth NZ\$ 500 million.

### ***Organic pipfruit***

Since the deregulation of the NZ apple and pear industry two additional major organic pipfruit exporters, other than ENZA, have emerged: Freshco and DM Palmer. Between the three about 90 percent of the entire organic pipfruit volume is exported. The industry estimates that this season (2002) approximately 350,000 trays (@ 18.5 kg) will be exported. This is forecast to increase to 600,000 trays in 2003, and 950,000 trays in 2004, as more orchards currently in 'organic transition' will become fully certified. It is expected that these levels will remain somewhat static after that, as some organic pipfruit growers will revert back to conventional production methods. This is because the organic pipfruit industry faces some challenges in terms of the organic spraying regime. According to some industry insiders, the previous season has seen an increased use of organic sprays to fight the higher incidence of fungi, which was caused by higher than average rainfall. The increased use of sprays has, however, resulted in some tree damage. Especially younger trees appeared to be more susceptible to spray damage/stress than older established trees. In general, the spraying regime adopted by organic pipfruit orchards resembles the calendar-type spraying regimes in conventional pipfruit orchards. Such a regime stresses younger trees in new orchards considerably more than older

trees. The net effect is that younger trees may never reach their full potential. Unless changes in the spraying regime and general pest control methods are made, organic pipfruit volumes will, at best, level off at about 950,000 trays but possibly be well below that number.

The pipfruit industry is not coordinated to the same degree as the dairy industry is, neither in terms of production nor in terms of marketing activities. Consequently, a common strategic intent within the pipfruit industry cannot easily be detected. Instead, the industry's long-term production decisions appear more dependent on short term supply and demand fluctuations. Premiums for organic pipfruit have been very good for growers with prices on average twice as high as for conventional fruit. However, according to industry sources, the current high prices may not be sustainable because global supplies of organic pipfruit are increasing from Argentina, Italy, and the U.S., which is able to supply organic apples for 12 months of the year.

As global supplies of organic apples become more abundant supermarkets are likely to demand more mainstream varieties such as Royal Gala and Braeburn, which means that growers of the less popular varieties may see their returns further reduced. Seventy five percent of New Zealand apples are Royal Gala, Braeburn, and Fuji, while the remainder consists of Granny Smith, Red Delicious, and Fiesta. A further confounding factor is that prices for conventional pipfruit has been increasing. In the long term, all of these developments are likely to cause some organic growers revert back to conventional production methods, which will somewhat offset the number of pipfruit growers currently in transition to full certification.

### ***Organic kiwifruit***

Zespri International Ltd., which is the sole export marketer of New Zealand kiwifruit (with the exception of the Australian market), is fully committed to the production and marketing of organic kiwifruit as it views organics as a crucial component of its product-mix that it offers to its retail customers (this also having significant benefits to grower returns for conventional kiwifruit). Zespri argues, for example, that the provision of an organic product line adds about NZ\$ 0.2 (US 9.6 cents) to each tray of conventional kiwifruit sold. However, some organic kiwifruit growers have been reverting back to conventional production as price premiums have been decreasing together with a decreasing differential between conventional kiwifruit and organic kiwifruit (the input costs in organic kiwifruit orchards are typically 10 to 20 percent higher than that for conventional orchards, while yields are also lower). Zespri attempts to maintain an incentive to produce organic kiwifruit by providing a differential in premiums between organic and conventionally-grown kiwifruit. For the current season Zespri attempts to maintain a differential of NZ\$ 2.30 (US\$ 1.1) per tray. Of this, the market is estimated to provide around NZ\$ 1.80 (US\$ 0.86) leaving NZ\$ 0.5 (US\$ 0.24) to be absorbed by conventional growers, which equates to about 2 NZ cents (US 1 cent) per conventional tray.

In 1999/2000 Zespri sold 1.3 million trays of organic kiwifruit (3 percent of all fruit supplied) compared with 3.1 million trays (4.9 percent) in 2000/2001, and 2.5 million in 2001/2002 (3.8 percent). Predictions are that the volume for 2002/2003 will be down to about 2.3 million trays (3.8 percent) as some growers reverted back to conventional production methods. In the longer term organic production increases will be highly dependent on price premiums achieved over conventional fruit, as Zespri's justification for additional payments above market returns for organic fruit will be challenged by

its growers.

### ***Organic frozen processed vegetables***

Exports of organic frozen processed vegetables are dominated by three companies: Heinz Watties with more than 60 growers on 2500 hectares growing peas, carrots, sweet corn, green beans, broad beans, potatoes, squash and onions and certified organic production facilities in 4 NZ locations; as well as Talley's and McCains. Japan is the biggest market (frozen peas and sweetcorn) followed by the U.S. (frozen peas and beans) and South Africa. The Japanese market, in particular, offers considerable potential, with demand far outweighing New Zealand's ability to supply. The capacity to supply organic vegetables is the major constraint on increasing exports and not the lack of sufficient price premiums. Firstly, according to the industry, under an organic growing regime a crop rotation of approximately 6 years is necessary to maintain the integrity of the organic system. This means that income from producing an organic vegetable crop, despite being high in any one year due to the substantial premiums, is averaged out over a six year period. Secondly, a six year crop rotation also dictates a minimum farm size of approximately 30 hectares at the lower end. At the higher end, production units are limited to 120 hectares, which is due to the fact that most farms are family businesses with limited human resources to manage farms of a larger scale. These two factors are limiting any significant increases in future production volumes, despite potential opportunities for further growth. Currently, Heinz Watties and Lincoln University are running an organics trial unit to show farmers how to convert from conventional to organic production and research solutions to problems associated with crop rotations and pest management.

### ***Organic farm conversions***

An indicator of potential future organic production is the rate at which conventional farming systems convert to a certified organic production system, since organic farms need to spend about three years in transition. While production volumes, productivity, and farm size vary between farms, the number of fully-certified farms that come on stream each year should somewhat covary with increases in the overall production of the organics sector. In particular, if these soon to-be organics farms can be identified at the individual product level, an closer estimate of increases of specific product categories should be possible.

New Zealand has three certifying agencies which hold a register of their membership. Between the two agencies they have about 600 certified organic growers and 250 growers in transition from conventional to full certification. Table 3 shows the currently fully-certified number of growers by product category and the number of growers coming on stream in the next two to three seasons. What the figures do not show is the number of operations that convert back to conventional production methods, that is, those producers that withdraw from certification schemes.



Table 3 Primary producers currently certified and in transition

Category	Fully Certified	In Transition	increase/decrease
Dairy	18	16	up 89 %
Vegetable	90	39	up 43 %
Kiwifruit	178	16	up 9 %
Apples	76	143	up 188 %

Source: CERTNZ, Bio-Gro

Despite the fact that the number of potential organic dairy farms does not correspond with Fonterra's indications – as certifying agencies only list producers that are actually registered, and not those that will register in the near future – the increase of nearly 100 percent clearly indicates that rapid production increases of organic milk can be expected.

The number of vegetable growers in transition may increase by 14 to 15 % annually. However, it is difficult to determine the actual production acreage increases – due to the high variation in farm sizes in this category – and the net effect of growers converting back to conventional production methods. The figures for vegetable growers may indicate, therefore, a stagnation or a slight increase in volumes over the next three years.

Organic Kiwifruit orchards harvested approximately 560 hectares of organic fruit in the 2001-02 season (compared with 354 ha in 1999/2000 and 522 ha in 2000/2001). The number of organic kiwifruit orchards in transition is relatively small, and combined with expectations that some growers will revert back to conventional production methods due to reasons mentioned above, there is some justification in expecting that organic kiwifruit production volumes will stagnate over the next few seasons.

The increase in organic apple orchards confirms industry estimates. Despite the possibility that some growers may leave the organics industry there is much more upside than downside to production increases over the next three years. However, given that some pipfruit orchards are experiencing pest control and production difficulties, the projected increases in volumes may not be as large as indicated above.

#### SECTION IV: INDUSTRY ISSUES

##### *Industry national strategic plan*

The organics industry is in the progress of developing a national strategic plan with the purpose of providing coordination and cohesion for all initiatives in the organic sector to assist in the profitable and sustainable development of organics in New Zealand. While still in the development stages some major issues are emerging. The five most important current issues identified are a need to: remain a GE (Genetic Engineering)-free New Zealand, build relevant and credible R&D programs, educate industry

and consumers, develop a credible organics industry, and build policy and political commitment at the national level. The five most important issues that need resolving in the long-term are to: implement organics favorable changes at all levels in society, maintain New Zealand GE-free, achieve sustainable organic production practices, educate consumers and public, and reduce overall use of chemicals. An emerging issue is that of fraudulent use of the organics label, which some 'true' organic growers want to see legally prosecuted.

### ***Value of organic exports from New Zealand and the impact of adopting GM***

A recent study conducted by the New Zealand Ministry for the Environment, released late last year, attempted to quantify the value of New Zealand's 'clean green image' to the New Zealand organics sector. The aim of the study was to quantify the extent to which New Zealand organic exports benefit from positive perceptions about the environment, while assessing the potential consumer reaction to a decline in New Zealand's cleanness and greenness. The study suggested that the 'clean green' image provides considerable value to New Zealand's organics exports.

The report focused on the potential impacts of two hypothetical scenarios on the profitability of the organics sector: the controlled and the uncontrolled release of GMOs (Genetically Modified Organisms) into the NZ environment. The key results from the small sample (n=2) of UK wholesalers indicated that New Zealand would almost certainly lose business in the UK in the event that New Zealand releases GMOs into the environment. In the event of controlled release, that is, GM (Genetic Modification) trials for research purposes, it appeared that while one wholesalers would not cut off New Zealand supply in the short term it would start to look for alternate sources of supply of organic pipfruit and kiwifruit. In the event of uncontrolled release of GM crops in New Zealand immediate losses in export volumes would be experienced. The expected loss in profit using information provided from two UK wholesalers (for an outline of the methodology employed please contact FAS Wellington), is shown in Table 4. Three profit margins are considered for current levels of organic apple and kiwifruit exports should GMOs be released without controls into the environment.

Table 4: Profit impact of the uncontrolled release of GMOs into the NZ environment

Wholesaler	Fruit	% decrease in volume purchased	loss in profit at margin = 5% (NZ\$)	loss in profit at margin = 10% (NZ\$)	loss in profit at margin = 20 % (NZ\$)
I	Kiwifruit	100	356,400	712,800	1,425,600
I	Apples	100	355,520	710,500	1,421,000
II	Kiwifruit	50	29,700	59,400	118,800
II	Apples	50	109,620	219,240	438,480

Reproduced from the Ministry for the Environment report "Valuing New Zealand's Clean Green Image", August 2001

These figures need to be viewed in the appropriate context. A 100 percent reduction in purchase volumes not only has a profit loss impact at the exporter-wholesaler interface, but more importantly, means a total loss of opportunity to sell organic products.



While the study is limited in terms of generalizability, the importance of the country-of-origin GM-status to at least two major wholesalers stands out. This reflects and possibly drives the views developed among many NZ organic producers, that is, that the release of GMOs would be detrimental to sales of NZ organic products. However, how far similar views are developed by other wholesalers/retailers and in other markets cannot be ascertained from the responses of two UK-based wholesalers alone.

While the current Government has issued a moratorium on the release of GMOs into the environment until October 2003, it is not clear at this point in how far current public pressure and the constellation of the new Government (general elections will be held July 27, 2002) might impact on whether the moratorium will be lifted or extended further for another period of time. The latter option is favored by a small but opinionated anti-GM lobby and the Green Party. However, New Zealand is likely to make assessment of the potential gains from the controlled use of GM technology to conventional agriculture and other industries versus the potential losses to organic and conventional agriculture and horticulture from losing a New Zealand GE-free status.

While the organics production sector is relatively minor in terms of the overall contribution to export revenue, it is nevertheless showing considerable growth in Europe and the U.S., where according to the report, organics is becoming a major marketing trend. This trend is driven by food scares such as BSE, E. Coli, listeria, and consumer opposition to genetic modification. This poses an interesting dilemma for NZ's agricultural and horticultural sectors. Total avoidance of genetic modification may result in New Zealand being left behind in the "technological revolution", while embracing it could lead to a loss of crucial markets that currently view New Zealand as clean green with a high level of environmental integrity. While future legislation of organics standards at national and international levels is likely to take the view that GM and organics can coexist, the view taken by consumers may differ. Bio-Gro New Zealand (NZ's main certifying agency), which is accredited by IFOAM, certainly views the release of GMOs as incompatible with organic production systems due to the potential for GE contamination of organic crops. This issue is likely to be carried over into the current discussion over a national organics standard (see below).

### ***NZ national minimum organic standard NZS 8410***

In the context of developing a national standard an interesting debate is, therefore, likely to emerge regarding the co-existence of organics and GE-based systems. While Bio-Gro believes that such co-existence is not practicable or philosophically reconcilable with organics, the USDA's national organics program differs markedly from that view. In the USDA's definition GE is identified as an 'excluded method', however, the definition does not exclude the products of such methods as organics is viewed as a process-based system. Some NZ companies, which produce both conventional and organic products, appear not to disagree with such a definition while others, mainly smaller operators which exclusively produce organics, appear to be in favor of IFOAM's philosophy. Nevertheless both groups tend to agree with the Ministry of the Environment's study's conclusion that the release of GMOs into the New Zealand environment would probably be detrimental to New Zealand's clean green image in key overseas markets such as Europe and Japan. Given that the organics industry would prefer to see New Zealand remain GE-free it is likely that an interesting debate will develop with regards to the final definition of the standard as a wider range of organic industry sectors have an input into its final definition.

***European Union accepts New Zealand organics assurance program***

After two years of negotiations by the New Zealand Food Safety Authority, formerly MAF Food, and the Ministry of Foreign Affairs and Trade, the EU has given New Zealand a "third-country listing" which will make it easier for NZ exporters to send organic products to Europe. The listing was gained through the application of a program requested and funded by OPENZ. The third-country listing provides an official government-to-government assurance to the EU that organic products exported from New Zealand have been produced under organic rules that are equivalent to those of the EU. Officials have already begun work to gain similar access to the U.S. and Japan.